CLAIMS

I claim:

1. An encryption state machine representation, comprising:

a plurality of nodes grouped into color segments, wherein directly connected nodes of the plurality of nodes are grouped into different color segments;

a set of transition vectors for interconnecting the plurality of nodes, wherein each of the set of transition vectors is assigned a unique value; and

a set of termination vectors, wherein each of the set of termination vectors interconnects one of the plurality of nodes with a termination point.

2. The encryption state machine representation of claim 1, wherein each of the plurality of nodes is assigned a unique node identifier and an output value.

3. The encryption state machine representation of claim 2, wherein the output values represent possible data values.

4. The encryption state machine representation of claim 1, wherein each of the plurality of nodes has at least one of the set of transitional vectors.

5. A method for securing an encryption state machine representation, comprising:

providing an encryption state machine representation having a plurality of nodes, wherein each of the plurality of nodes has at least one transition vector that has a unique value and that leads to another one of the plurality of nodes, and wherein the encryption state machine representation further includes a set of termination vectors that each lead from one of the plurality of nodes to a termination point; and

grouping the plurality of nodes into color segments.

6. The method of claim 5, further comprising separately transporting the color segments.

7. The method of claim 5, wherein each of the plurality of nodes is assigned a unique node identifier and an output value.

8. The method of claim 5, wherein directly connected nodes of the plurality of nodes are grouped into different color segments.

9. A method for encrypting a set of data values, comprising:

providing a state machine representation having a plurality of nodes grouped into color segments, wherein each of the plurality of nodes is assigned a unique node identifier and an output value, and wherein each of the plurality of nodes has at least one transition vector having a unique value that leads to another one of the plurality of nodes;

selecting a starting node and traversing along the transition vectors, recording in sequence, the unique values for the transition vectors traversed; and

recording an invalid unique value upon reaching one of the plurality of nodes having an output value that matches one of the set of data values.

10. The method of claim 9, wherein the providing step comprises assigning each of the set of data values to at least one of the plurality of nodes as an output value.

11. The method of claim 9, wherein the invalid unique value corresponds to a transition vector that does not exist from the one of the plurality of nodes.

12. The method of claim 9, wherein the invalid unique value corresponds to a termination vector that leads from the one of the plurality of nodes to a termination point.

13. The method of claim 9, further comprising:

outputting the recorded unique values and the recorded invalid unique values as a string of values; and

separately outputting the color segments of the state machine representation.

14. The method of claim 13, further comprising decrypting the set of data values, wherein the decrypting step comprises:

receiving the string of values;

separately receiving the color segments of the state machine representation;

selecting the starting node and traversing along the transition vectors traversed during encryption of the set of data values according to the unique values in the string of values; and

recovering one of the set of data values by reading the output value from a current node when one of the invalid unique values is reached in the string of values.

15. The method of claim 9, wherein the transition vectors are randomly traversed.

16. A method for decrypting a set of data values, comprising:

receiving a state machine representation having a plurality of nodes grouped into color segments, wherein each of the plurality of nodes is assigned a unique node identifier and an output value, and wherein each of the plurality of nodes has at least one transition vector having a unique value that leads to another one of the plurality of nodes;

receiving a string of values that includes unique values and invalid unique values as recorded in sequence during encryption of the set of data values;

selecting a starting node and traversing along the transition vectors according to the unique values in the string of values; and

recovering one of the set of data values by reading the output value from a current node when one of the invalid unique values is reached in the string of values.

17. The method of claim 16, wherein the color segments of the state machine are separately received.

18. The method of claim 16, wherein directly connected nodes of the plurality of nodes are grouped into different color segments.

19. The method of claim 16, wherein each of the set of data values is assigned to at least one of the plurality of nodes as an output value.

20. The method of claim 16, wherein the one invalid unique value corresponds to a transition vector that does not exist from the current node.

21. The method of claim 16, wherein the one invalid unique value corresponds to a termination vector that leads from the current node to a termination point.

22. A system for encrypting a set of data values, comprising:

a vector system for traversing along a set of transition vectors between a plurality of nodes in a state machine representation, wherein the plurality of nodes are grouped into color segments, wherein each of the plurality of nodes is assigned a unique node identifier and an output value, and wherein each of the set of transition vectors has a unique value;

a recording system for recording in sequence the unique values corresponding to the set of transition vectors traversed; and

a value designation system for providing an invalid unique value when one of the plurality of nodes is reached that has an output value matching one of the set of data values, wherein the recording system further records the invalid unique values in sequence with the unique values.

23. The system of claim 22, further comprising an output system for outputting a string of values that includes the unique values and the invalid unique values as recorded in sequence.

24. The system of claim 23, wherein the output system further outputs the color segments of the state machine representation.

25. The system of claim 22, wherein the invalid unique value corresponds to a transition vector that does not exist from the one of the plurality of nodes.

26. The system of claim 22, wherein the invalid unique value corresponds to a termination vector that leads from the one of the plurality of nodes to a termination point.

27. The system of claim 22, wherein the set of transition vectors are randomly traversed.

28. The system of claim 22, wherein each of the set of data values is assigned to at least one of the plurality of nodes as an output value.

29. A system for decrypting a set of data values, comprising:

an input system for receiving a string of values that includes unique values and invalid unique values as recorded in sequence during encryption of the set of data values, and for receiving a state machine representation having a plurality of nodes grouped into color segments, wherein each of the plurality of nodes is assigned a unique node identifier and an output value, and wherein each of the plurality of nodes has at least one transition vector having a unique value that leads to another one of the plurality of nodes;

a path system for traversing a set of the transition vectors according to the string of values; and

a data value system for recovering one of the set of data values by reading the output from a current node when one of the invalid unique values in the string of values is reached.

30. The system of claim 29, wherein the color segments of the state machine representation are separately received.

31. The system of claim 29, wherein the one invalid unique value corresponds to a transition vector that does not exist from the current node.

32. The system of claim 29, wherein the on invalid unique value corresponds to a termination vector that leads from the current node to a termination point.

33. The system of claim 29, wherein each of the set of data values is assigned to at least one of the plurality of nodes as an output value.

34. A program product stored on a recordable medium for encrypting a set of data values, which when executed, comprises:

program code for traversing along a set of transition vectors between a plurality of nodes in a state machine representation, wherein the plurality of nodes are grouped into color segments, wherein each of the plurality of nodes is assigned a unique node identifier and an output value, and wherein each of the set of transition vectors has a unique value;

program code for recording in sequence the unique values corresponding to the set of transition vectors traversed; and

program code for providing an invalid unique value when one of the plurality of nodes is reached that has an output value matching one of the set of data values, wherein the program code for recording further records the invalid unique values in sequence with the unique values.

35. The program product of claim 34, further comprising program code for outputting a string of values that includes the unique values and the invalid unique values as recorded in sequence.

36. The program product of claim 34, wherein the program code for outputting further outputs the color segments of the state machine representation.

37. The program product of claim 34, wherein the invalid unique value corresponds to a transition vector that does not exist from the one of the plurality of nodes.

38. The program product of claim 34, wherein the invalid unique value corresponds to a termination vector that leads from the one of the plurality of nodes to a termination point.

39. The program product of claim 34, wherein the set of transition vectors are randomly traversed.

40. The program product of claim 34, wherein each of the set of data values is assigned to at least one of the plurality of nodes as an output value.

41. A program product stored on a recordable medium for decrypting a set of data values, which when executed, comprises:

program code for receiving a string of values that includes unique values and invalid unique values as recorded in sequence during encryption of the set of data values, and for receiving a state machine representation having a plurality of nodes grouped into color segments, wherein each of the plurality of nodes is assigned a unique node identifier and an output value, and wherein each of the plurality of nodes has at least one transition vector having a unique value that leads to another one of the plurality of nodes;

program code for traversing a set of the transition vectors according to the string of values; and

program code for recovering one of the set of data values by reading the output value from a current node when one of the invalid unique values in the string of values is reached.

42. The program product of claim 41, wherein the color segments of the state machine representation are separately received.

43. The program product of claim 41, wherein the one invalid unique value corresponds to a transition vector that does not exist from the current node.

44. The program product of claim 41, wherein the on invalid unique value corresponds to a termination vector that leads from the current node to a termination point.

45. The program product of claim 41, wherein each of the set of data values is assigned to at least one of the plurality of nodes as an output value.